# GEOGRAPHIC NEWS BULLETINS

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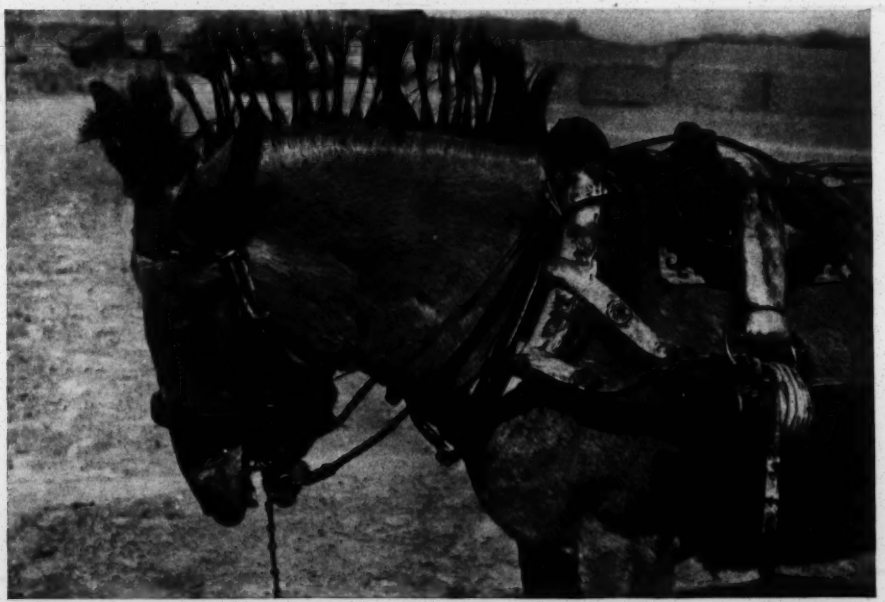

*Photograph by Capt. Hans Koester*

### A MULE IN CHINESE COSTUME IS MULISH STILL

In Kansu Province of northwestern China, where draught animals are frequently more expensive than manpower, mules are highly prized. Their manes are dressed in the bristly fashion found on Chinese statuettes of horses of great antiquity. To curb their sullen temper, a chain hangs from the bridle near the bit; if the mule becomes unmanageable, the chain is fastened across his teeth under his upper lip. The yoke to which the cart shafts are attached rests on a decorated pad, and discs covered with Chinese characters adorn the harness (Bulletin No. 3).

### HOW TEACHERS MAY OBTAIN THE BULLETINS

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**General Headquarters, Washington, D. C.**

## Finland's Karelian Isthmus Is Europe's "Hottest" Battleground

ALTHOUGH the news brings stories of soldiers frozen to death at their posts and of detachments mounted on skis, the snow-covered Karelian Isthmus has been the most hotly contested battleground in Europe's latest war.

An irregular land bridge from southeast Finland to Soviet Russia, the Karelian region is made an isthmus by the Gulf of Finland on the west and Europe's largest lake, Ladoga, on the east. Diagonally across the 70-mile width of the isthmus stretches Finland's Mannerheim Line of fortified defense, roughly parallel to the Soviet Union's border.

### Holds a Vital Port of Each Warring Nation

The isthmus has long been contested between the Russians and the Scandinavians. When Finland was under the domination of Sweden, from the 12th century to the 19th, this area was frequently a battleground on which expanding Sweden and imperial Russia struggled for supremacy.

Two leading seaports of the opposing nations are located on this isthmus. On the Soviet side of the Gulf of Finland, less than 50 miles south of the Mannerheim Line, lies Leningrad, second city and strategic northern port of the U.S.S.R., with a population approaching three million people. North of the line, also on the Gulf of Finland, is Viipuri (Viborg), chief industrial, commercial, and distributing center of eastern Finland (illustration, next page). The two ports are some 70 miles apart or 15 minutes' flight at bomber's speed.

Among other important Finnish towns on the Karelian Isthmus is the timber port of Koivisto, something less than halfway between Viipuri and Leningrad. There in 1905 a "treaty of defense" was signed by Wilhelm II of Germany and Nicholas II of Russia. Across the isthmus, on Lake Ladoga, is Finland's industrialized Kakisalmi (Kexholm), which has grown considerably in recent years with the establishment there of sawmills and a large cellulose factory.

On the Vuoksi River, which empties into Lake Ladoga, are a number of normally busy industrial centers, including Enso and Imatra, whose names have figured prominently in early news dispatches of the war. At Imatra is the vital power station which provides electricity for southern Finland as far west as the port of Turku (Abo), at the southwestern corner of the country.

### Home of National Literature, Set to Music by Sibelius

Communication lines, rail and road, stretching in all directions from the Karelian Isthmus, emphasize the strategic importance of this region. In addition, Finland's intricate eastern system of lakes and streams provides transportation by boats in summer and unobstructed areas for frozen roads in winter.

Linking the port of Viipuri with the inland town of Lappeenranta, for example, the Saimaa Canal makes possible a direct lake-and-stream route as far north as Iisalmi, in the heart of Finland.

It was by way of the Karelian Isthmus (probably from the Volga basin in Russia), according to some authorities, that the first Finnish settlers came to Finland, during the 4th century. Bringing with them their tribal poems and legends, one of the migrating tribes, the Karels, settled north and west of Lake Ladoga. They gave their name to the region in Finland, and also to the Karelian Republic across the border in the western U.S.S.R.

By the end of the 13th century, the Swedish conquest from the west had reached there. While the government groups spoke Swedish, the peasants



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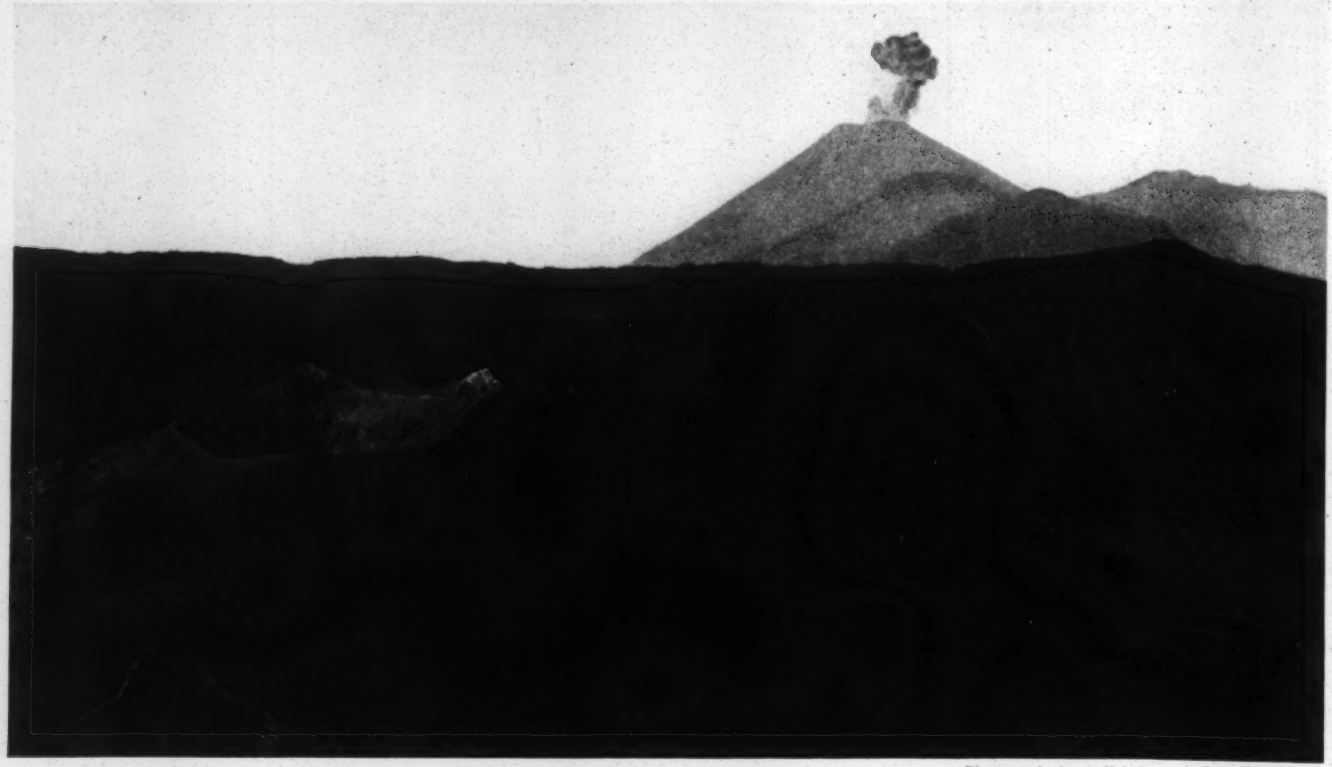

*Photograph from Helmig and Co.—Kurkdjian*

**JAVA'S APE-MAN MAY HAVE LIVED AND DIED IN FEAR OF VOLCANOES**

**The fossil bones from which scientists have reconstructed the anatomy of Java's *Pithecanthropus erectus*, possibly 300,000 years old, were found embedded near the Solo River. One theory is that volcanic eruptions caused the stampede of man and animals to the river bank where their bones were buried; the most recently discovered skull was encrusted with volcanic ash. Estimates give Java between 60 and 100 volcanoes which are not yet extinct. The highest point of the island is the Semeroe Volcano, flaunting its smoke plume in the background of the picture. In the foreground are the craters of the extensive Tennger group, including Mount Batok and smoking Mount Bromo (left middle distance above Batok) (Bulletin No. 2).**

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## Stone Age Men Yield Bones to 1939 Scientists

A FEW more facts were pieced together in 1939 about the men who lived on earth in the distant past, 10,000 to 300,000 years ago. From mute fragments of fossilized bone, modern man has decoded messages by which his human and pre-human ancestors speak for themselves across a vast gap of time.

The oldest of these "talking bones" were parts of a skull recovered from the bed of the Solo River in Central Java by Dr. R. von Koenigswald, the eminent paleontologist of Java. He indentified the skull remnants as upper and lower jaws with teeth, and about three-quarters of the thick bone of the back of the skull.

### Dead Men 300,000 Years Old Tell Tales

Dr. Franz Weidenreich, a German exile now in the United States, announced that the Java skull had belonged in life to an adult male of the species called the Java Ape-Man (*Pithecanthropus erectus*, from *pithecos*, ape; and *anthropos*, man). The Java Ape-Man is described as a chinless low-brow, with a jutting ridge above his eyes and a flattish skull long from front to back. Three other skulls of this species have been reconstructed. Dr. Weidenreich estimates that *Pithecanthropus*, with all the modern improvements of the Pliocene Era, walked upright through the lush jungle of Java some 300,000 years ago, sharing the volcanic island (illustration, inside cover) with early forms of the elephant, hippopotamus, rhinoceros, wild boar, deer, and hyena. Having studied Stone Age man in China also, Dr. Weidenreich advanced the theory that China's oldest known human inhabitants, called Peking Man or *Sinanthropus Pekinensis*, and the prehistoric men of Java lived during periods that overlapped; he surmised from this overlapping of time that early man did not develop from the inhabitants of one locality, but from several scattered centers not necessarily in touch with one another.

Seven skulls, apparently belonging to a family group, were uncovered in the famous Choukoutien caves near Peiping (Peking), China, by Dr. Weidenreich and Dr. W. C. Pei, of the Peiping Union Medical College. These remains were found in 1930, but they were not announced until 1939. The curiosity of the discoverers was piqued by the marked differences of a racial character in the skulls of these ancient victims, who died between 20,000 and 100,000 years ago. Their tentative conclusion is that ancient man was not divided into a few distinct types which modern civilization has mixed. On the contrary, they suggest, primitive man was of many different "racial" types; it was only after isolated clan groups developed distinctive traits that the "racial" characteristics became uniform.

### First Neanderthal Skull Found in Central Asia

Most interesting American to paleontologists is the mysterious Stone Age predecessor of today's United States inhabitants—Folsom Man, the "vanished American" whose dart points were first unearthed near Folsom, New Mexico, in 1925. Smithsonian Institution scientists last year led by Dr. Frank H. H. Roberts, Jr., continued their dogged search of the past six years at the famous Lindenmeier site in northern Colorado for Folsom remains. Red and yellow paint, beads, dart points, and knives show clearly the probability that man lived on this continent from 10,000 to 25,000 years ago. But these scientific detectives have not yet found the bones to prove this early American's existence.

Dr. A. Okladnikov reported the discovery in the Hissar Mountains, Uzbek, U.S.S.R., of a skull and other bones of an eight-year-old child, described as the first evidence of the presence of Neanderthal man (illustration, next page) east of



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continued to use the Finnish dialect. Centuries later, with the growing expression of Finnish nationalism, the folk songs of the Karelian peasants became a basis for much of the national literature. A traveling country doctor, Elias Lonnrot, published in 1835 the results of his years of song-collecting, mostly in the Karelian region, in the famous epic poem, *Kalevala* (Land of Heroes). In its 27,000 lines there is a strong resemblance, in choice of material as well as rhythm, to the *Hiawatha* of Longfellow, who was influenced by the art of the Finnish poet.

The well-known modern composer, Jan Sibelius (born at Tavastehus in southwest Finland), has used many of the literary themes of the *Kalevala*.

Note: Additional photographs, text, and a map of Finland are found in "Farthest-North Republic," *National Geographic Magazine*, October, 1938. See also "Looking Down on Europe Again," June, 1939; and "Flying Around the Baltic," June, 1938.

See also in the GEOGRAPHIC NEWS BULLETINS: "War Loss Closes Finland's Back Door to the Ice-Free Arctic," January 8, 1940; "Hobbies and Hard Work in Finland," November 16, 1936; and "Finland—Somber Land of Lakes and Forests," January 27, 1936.

**Bulletin No. 1, January 29, 1940.**

*Photograph by Gustav Heurlin*

**AS VIIPURI WAS FORTIFIED, THIS WAS THE LATEST STYLE**

**The port of Viipuri (Viborg) even in the Middle Ages was important enough to defend with an encircling turret-studded wall. A single Round Tower survives, although now useless for defense. But the up-to-date Finns make use of their useless antiques. Meals and music attract visitors to the Tower, staffed by waitresses in medieval costumes.**

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## The Mule, Honored in War and Peace

THE mule is in the army now again, in spite of today's thunderous progress of mechanized fighting equipment. Troops from India, arriving in France to join British forces, are not betting on machines to win the war; they have brought along mules, veterans tested in patrol duties in India's North-West Province. When roads are blocked and trucks bog down on cross-country detours, experts agree on the mule as the best "equipment" for moving artillery through battlefield mud.

The mule has been up in arms in man's defense for some time. In honor of mulish assistance to Italian forces on the Alpine front in the World War and for service later in Italy's conquest of the parched and sun-scorched hills and valleys of Ethiopia, a statue to the mule now stands in one of the chief parks in Rome, erected in 1937. The statue, like many of the animals it commemorates, carries arms—a 65-millimeter mountain artillery piece.

### Arms and the Mule

Its strength, endurance, and sure-footedness are proverbial in the hard work of transporting supplies and ammunition under the most difficult conditions. "The Civil War," said one United States general, pointing out the Union Army's use of the animal to haul wagons over rough roads, "could not have been carried to a conclusion without the faithful army mule."

In the South African Boer War, British forces made use of the mule's special qualities, when horses were unable to stand up under the strain.

Dependable under fire, the mule did heavy duty for the Allies during the World War, packing artillery and supplies all the way up to the front. In the mountains, these beasts often acted as portable hospitals, carrying such necessities as surgical dressings, medicines, and blankets to the wounded.

Italians say that mules were invaluable during the 1911-12 war against Turkey for possession of Libia in North Africa. Some of the animals were even decorated for valor, and the story is told of one faithful beast which escaped from the Turks after capture and returned to its Italian masters, wounded but still bearing its artillery pack.

### Mules for Royalty and "Every Mule a King"

From time immemorial mules have been bred and worked in Europe, especially in the mountain regions of France, Spain, and Italy. Sometimes, instead of serving in the lowly occupations of farm and trade, they were used by royalty to pull the royal coaches. Decked out in brilliantly colored trappings, the mule in Ethiopia was considered the proper mount for the upper classes. By the decoration of his mule, the rank of the rider often could be determined (illustration, next page).

In the United States, the "mule industry" assumed large proportions after the Revolutionary War. George Washington was keenly interested in the breed, and accepted from the King of Spain the gift of an Andalusian jack and a jennet, which stocked Mount Vernon with mule colts.

In 1905 the United States had more than two and a half million mules. By 1926, the peak of mule production was reached with nearly six million mules and mule colts. Since then, because of the invasion of the farm by tractors, trucks, automobiles, and other farm machinery, Uncle Sam's mule population has declined to a little less than four and a half million.

In many States, especially in the cotton belt, the mule is still supreme. Texas was credited with some 740,000 recently. One Mississippi cotton plantation, the



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Palestine and the Crimean Peninsula. Neanderthal skulls have been found in Europe and Africa; the name comes from a valley of the Dussel, a tributary of the Rhine. An especially fine specimen of a Neanderthal man, who probably died in a club-duel 70,000 or 80,000 years ago, was unearthed during the past year at Mount Circeo, between Rome and Naples.

Dr. Ales Hrdlicka, of the Smithsonian Institution at Washington, went to Irkutsk in Siberia to study skeletal remains of the Neolithic man of about 150,000 years ago. He brought back a skull, found near Irkutsk, that so closely resembles the skull of the American Indian as to strengthen his contention that America's Indians came from Asia, across Bering Strait.

Romantic convictions that man's early ancestors had fewer woes than modern man received a shock when Dr. Robert Broom, Transvaal Museum, Pretoria, reported that his examination of the so-called Kromdraai skull showed that Paranthropus (literally "near man") had a typical human mastoid process and presumably was subject to the pangs of earache. Additional bones were found in August, 1939, of this newest candidate for the "missing link" title.

Note: For additional material about Stone Age Man and the lands in which his traces are found, consult "How Old Is Man?" by Theodore Roosevelt, in the *National Geographic Magazine*, February, 1916. See also "Grand Canal Panorama," April, 1937; "Explorations in the Gobi Desert," June, 1933; and "Through Java in Pursuit of Color," September, 1929.

**Bulletin No. 2, January 29, 1940.**

*Photograph from Osborn's "Men of The Old Stone Age"*

**SCIENTISTS PURSUED THIS INVISIBLE MAN INTO ASIA**

**Although no one now living has ever seen a Neanderthal man, paleontologists have deduced from scant clues that he looked like this. The Neanderthaler was the dominant race throughout Europe for as long as 50,000 years, dwelling in caves and making implements of flint. Now skulls of Europe's Stone Age cave man have been found in Central Asia.**

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## Engineering Accomplishments of 1939

NEW highways in the New World and railways in the Old World, extension of great reclamation dikes in the Netherlands, new bridges, and an important pipe line in South America helped to make engineering history in 1939. As in other recent years, no important additions were made to surface railway mileage in the United States; but under the surface, hundreds of workmen burrowed beneath Chicago to create subways.

***ROADS:***

Most important of the new roads in the Western Hemisphere is the 422-mile paved highway extending from Mexico City westward to Mexico's second largest city, Guadalajara. The road was opened to traffic November 22. It connects at Mexico City with the completed highway between that city and the United States border at Laredo, Texas.

In eastern Canada completion of highway links gave New Brunswick a 411-mile stretch of road which is part of the proposed trans-Canada highway. It extends along the St. John River.

A new gateway between Canada and the United States was inaugurated in September when ceremonies marked the extension of the Daniel Webster Highway across the New Hampshire-Canada border into southern Quebec.

Most important of the new highways of the Old World completed during 1939 was the 538-mile motor road from Assab on the Red Sea across the torrid Danakil Desert to Addis Ababa, capital of Ethiopia. This brings the total mileage of motor roads built during the three years of Italian occupation to more than 2,000. Bus and truck lines have been established to handle increasing traffic between Italy's Red Sea colony of Eritrea and central Ethiopia.

Of great potential military value is the system of hard-surfaced highways being constructed by British and Egyptian cooperation across some of the deserts of Egypt and along the Egyptian coast. The road from Cairo east to Suez at the southern end of the Suez Canal is more than half completed. Work has been completed on a 150-mile road extending westward from Alexandria along the coast to Matrûh, about 100 miles from the border of Italian Libia.

Peru opened for use during the year a new trunk highway linking Lima with Arequipa. The total length of the road is approximately 700 miles, of which 250 miles have been asphalted. Fifty miles of road, constituting a section of the Pan American Highway, were opened for public use in Bolivia in June. The section stretches from La Paz to Lake Titicaca, the highest navigable lake in the world.

***RAILWAYS:***

During 1939—25 years after the beginning of the World War in which it played a part—the "Berlin-to-Baghdad" railway was finally completed. Berlin is at present not important as a European terminus. The completion of the last link (a 275-mile stretch from Diyarbekir near Turkish-Iraq border to a point 60 miles south of Mosul, Iraq) would in normal times carry traffic by rail from London to Baghdad. Two railway ferries would be involved in this 2,750-mile trip, one across the English Channel and the other across the Bosporus.

Another important "last gap" in the rail network of the Near East was filled in the northeastern quarter of Turkey. Extending from Erzincan to Erzurum in Turkish Armenia, it made possible continuous rail travel from the Bosporus eastward across Turkey and through the Soviet trans-Caucasus country to the Caspian Sea. Much of this new railway was destroyed by the severe earthquake shocks which occurred in the region on December 27. The branch line of Turkish railway, completed in 1939, between Sivas and Samsun, on the Black Sea, also suffered during the earthquake shocks.

In Iran (Persia) the first section of 26 miles of the Tehran-Tabriz railway was opened in September.

Railways were constructed into entirely new territory in north-central Asia during the year. A 153-mile line which will serve as the principal means of transportation for the Buriat Mongol Republic of the U.S.S.R. was completed from Verkneudinsk (Ulan Uda), on the Trans-Siberian railway, to Kyakhta (Naushi), 50 miles east of Lake Baikal, near the border of Outer Montolia. This line covers nearly half the distance between the Trans-Siberian railway and Urga (Ulan Bator Khoto), capital of Outer Mongolia.

From Urga southward the first railroad ever built in Outer Mongolia was completed—a 25-mile stretch of narrow-gauge track extending to Nalaikha, the region's only coal mine.

A thousand miles to the west, in the Western Siberian Krai (Region) of the U.S.S.R., a 210-mile railway was constructed from Rubtsov to Ridder in the edge of the Altai mountains. This line is considered to be of marked importance since it links the trans-Asiatic railway system of the U.S.S.R. with a region of growing industrial importance. Along the line is the



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largest in the United States, employs some 900 mules. Outside the cotton belt, Tennessee, Missouri, and Kentucky are big mule-using States. Missouri's mule has figured in world trade. Tennessee honors this hard-working animal at a yearly mule festival held in Columbia. Placed in a royal chariot drawn by his subjects, a mule is finally crowned "king" before thousands of spectators.

**Bulletin No. 3, January 29, 1940.**

*Photograph by James Loder Park*

**WHERE THE LOWLY MULE IS A ROYAL MOUNT**

**In Ethiopia, before new Italian roads improved communications, the sure-footed mule was the traveling man's best friend. The mule kept company with the higher classes, for only the wealthy could afford a mount. The ornate harness and saddle blanket also indicate the owner's wealth.**

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## Chicken-less Liberia: Africa's Sole Independent Republic

DREAMS of fried chicken, southern style, may come true now on Liberian rubber plantations, and the chicken may be cooked by descendants of the slaves who made southern-style cooking famous in the United States. From Akron, Ohio, a shipment of incubators, chicken coops, and eggs has gone to Africa, for plantations supplying an American rubber company. Previously, fresh eggs and American poultry were missing from the Liberian scene, which otherwise in many ways is patterned after American models.

It was through the American Colonization Society's effort to solve peacefully the problem of slave labor in the United States that Liberia was set up as an independent republic in 1847. Colonization of the land with freed slaves from the States had started some 40 years before the Civil War settled the slavery question. This West African country, sometimes referred to as "America's only African colony," has turned more than once, during its turbulent history, to the godparent United States for "aid and comfort." Its flag, constitution, and government are patterned after the U. S. model, while an American receiver heads the commission in charge of customs duties and an American company finances the national debt. Monrovia, capital and principal port, is named for an American president (Monroe).

### Zebra-Striped Antelope and Liberian Dormouse

A ragged patch of land on the great West African shoulder that bulges into the Atlantic Ocean, Liberia is about the size of Ohio, with a population estimated at more than a million and a half Christian, Moslem, and pagan negroes. As the last stop of shipping along the continental curve on the sea lane between Europe and South Africa, this state occupies a strategic geographic position. The "Grain Coast" (so-called from its one-time trade in pepper, or "Grains of Paradise") has a wealth of natural resources, and some of nature's best side-show oddities.

Found in Liberia, for example, is the zebra antelope, no bigger than a small goat and made up in prison garb of broad black stripes on a bright brown coat. There are the pygmy hippopotamus and the Diana monkey, with brilliant orange-red thighs, and a white-shouldered duiker, another rarity in the antelope world. Two species of Liberian shrew (a molelike creature with velvety fur) are peculiar to the country; while out of *Alice in Wonderland* itself is a local version of the dormouse, a small rodent whose habit of going torpid in cold weather may have had something to do with his sleepy characterization at Alice's famous tea party. On the debit side of nature's generosity to Liberia are seven species of poisonous snakes, three varieties of crocodile, the scorpion, and the python.

### Lifeblood of Liberian Commerce Is Rubber-Tree Milk

Liberia has been called the "Garden Spot of West Africa," blessed with the good earth, dense tropical forests, mineral deposits—and that modern essential to a world-on-wheels, rubber.

Its well-watered soil is capable of producing a lush growth of coconuts, a good grade of coffee, considerable cocoa, cotton, and rice. Its pasture land is well suited to the raising of goats, sheep, and cattle. Gold and diamonds are found there, as well as copper, zinc, and iron. Yet, with the exception of the vast rubber plantations worked under concession to an American company, much of this potential wealth is as sterile as buried treasure.

In Liberia's area of some 43,000 square miles, there is no railway, and only



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Irtysh River hydroelectric station, one of the largest projects developed under the third 5-year plan. Also on the line are copper smelting works and mines.

In Chosen (Korea) a significant 188-mile length of new railway was laid down from Heijo to Manpochin, on the Yalu River at the Manchutikuo border. Only a bridge remains to be built across the Yalu to make possible through traffic from the end of the Chosen peninsula to Changchun and the Manchutikuo railway network.

Siam's (Thai) new railway consisted of a 62-mile extension to the northeastern system of the Royal State Railways from Khonhaen to Udorn, the latter near the French Indo-China border.

Romania built the completing section of its north-south railway line in The Dobruja. The completed line parallels the Black Sea coast extending from the Bulgarian border in the south to Tulcea on the Danube near its mouth.

***BRIDGES:***

Longest new bridge in Africa, and one of the longest suspension bridges in the British Empire, is the Otto Beit highway bridge, with a central span of 1,050 feet, across the Zambezi River, approximately 250 miles downstream from the internationally famous Victoria Falls. The bridge connects Southern and Northern Rhodesia, on the direct route between the capitals of the two countries, Salisbury and Lusaka.

In Ethiopia a bridge was completed over the Omo Bottego River. It carries over the stream a highway between Addis Ababa and the Jimma region to the southwest.

One more primitive ferry in northern Norway was superseded by the opening of a bridge across the Maalselv River between Narvik and Tromso. The bridge is part of Norway's "Midnight Sun Highway," which is being extended toward North Cape.

In the United States, New York brought to completion at the end of April its sixth great bridge linking Long Island communities to the rest of Greater New York—the Whitestone Bridge, whose 2,300-foot span gives it rank as the fourth longest suspension bridge in the world (it is exceeded only by Golden Gate Bridge, San Francisco; the George Washington Bridge over the Hudson in New York; and the Cross-Bay Bridge, San Francisco).

At La Crosse, Wisconsin, a steel and concrete bridge, 2,206 feet long across the Mississippi River was put into use late in September.

***MISCELLANEOUS: DIKES, TUNNELS, PIPE LINES, SUBWAYS, HARBORS, DAMS:***

In the Netherlands, behind the Great Dam which closed the old Zuider Zee and made it into IJssel Lake, work approached completion on the semi-circular dike extending from the shores of Friesland to the Island of Urk and thence to the mainland. Water behind this dike will be pumped out to reclaim a large area of lake bottom. This is the second of four large "polders" that will be reclaimed from the lake and turned into farming land.

Last of the earth fill in the huge Fort Peck Dam across the Missouri River in Montana was put into place in November. It is the largest earth fill dam ever built and has already created a lake 24 miles long and 7 miles across at its widest point. The reservoir will eventually be 180 miles long with a maximum width of 16 miles. Although the last of the earth has been put in place much work remains to be done on the structure. The dam will serve as an aid to navigation, a deterrent to floods, and a creator of power.

A 260-mile pipe line to transport petroleum from one of Colombia's inland oil fields near the Venezuelan border to Covenas, a port on the Caribbean Sea, was completed during the year. The pipe system traverses in part a region of savage Indians. The oil is forced by pumping stations over one of the Andes ranges, down into the low Magdalena Valley, and under the Magdalena River.

In Hungary a new 23-kilometer oil pipe line was completed to transport petroleum from the Lispe field to a railway station at Ujneppuszta.

A huge barrage or dam more than 1,600 feet in length was completed across the Tigris River at Kut after four years of work. It is situated a hundred miles southeast of Baghdad, nearly halfway between that city and the head of the Persian Gulf. Water, flooding from above the barrage into a broad diversion canal, will bring into cultivation some 720,000 acres of land.

Completion of a large irrigation dam at Kalkfontein, Bechuanaland, South Africa, after years of work resulted in the creation of one of the largest artificial lakes in the Union of South Africa. Canals from the reservoir extend for 70 miles through land which has been devoted to sheep raising but which now will be turned in part to agricultural purposes.

Osaka, Japan, was the only city to bring to completion a considerable mileage of new subway during 1939. In Chicago, which has never possessed a passenger subway, work on a new underground system progressed. Work is going forward in Rome, Italy, on an underground railway approximately seven miles in length which will be ready for the 1942 Exposition in that city. An entirely new subway was under construction in Santiago, Chile. Work on the extension of the Moscow subway is also in progress.

Great Britain's largest airport, situated at Grangemouth, approximately midway between Edinburgh and Glasgow, for use of the two cities, was completed early in 1939. New York's huge new Municipal Airport for the accommodation of both land and sea planes was opened October 16. Some 558 acres in extent, it is one of the largest air fields in the world.

Japan modernized and put into use a large naval base at Maizuru on Wakasa Bay in the Sea of Japan. The base is 465 miles southeast of Vladivostok.

A five-mile ropeway linking Darjeeling on a mountain top in northern India with Bijan Bari in the Rangeet Valley was completed early in the year. Passengers are transported in cars suspended from an endless traveling rope.

about 150 miles of motor road. Illiteracy is high; malaria and sleeping sickness, especially in the interior, are national problems. Once outside the typically white-washed coastal towns, one meets a primitive jungle life of tom-toms and wild tribal dances.

On the other hand, considerable progress has been made in Liberia. Youth and progress are served at one time, as promising students are sent abroad for training in educational institutions and industrial plants. In the slow modernization of the country, a small but steady stream of such machine-age implements as radios, typewriters, adding machines, trucks, and automobiles is trickling in.

State revenues, of which some 11 per cent is spent in education, have shown increases in recent years. Foreign trade has been climbing, largely because of increased rubber production. Liberian rubber exported to the United States is responsible for America's position as Customer No. 1 of this distant tropical land.

A trade transfusion injected new blood and energy into the country's commerce when the American rubber company leased some 160,000 acres of land at 6 cents an acre for plantations. In 1934 the country exported about 100 tons of rubber; in 1935, 800 tons. An estimate for 1939 indicates an export figure approaching 6,000 tons, or an increase in five years amounting to 5,900 per cent. All the Liberian rubber is sold to American interests.

Note: For an account of the rubber industry, in which Liberia plays a part, see "Our Most Versatile Vegetable Product," *National Geographic Magazine*, February, 1940. See also "Land of the Free in Africa," October, 1922; and "Monrovia Has One of Four U. S. Legations in Africa," GEOGRAPHIC NEWS BULLETINS, March 8, 1937.

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*Photograph from Harry A. McBride*

**ONLY ONE PER CENT OF THE LIBERIANS ARE DESCENDANTS OF FREED SLAVES**

**Among Liberia's one and a half million inhabitants, not more than 12,000 or 15,000 are Americo-Liberians, descended from freed slaves resettled in Africa after servitude in the United States. Yet they are responsible for such names as New York, Virginia, and Bunker Hill applied to villages of thatched huts. More than 25 miles inland from the coast, the people are almost entirely "un-Americanized." They live in houses of daubed mud with roofs of palm-frond thatch. Their utensils are large calabashes (left foreground) and native baskets (left background). Sheds have airy walls of plaited branches (background). To the old costumes of hand-woven cotton colored with vegetable dyes, they now prefer British cotton printed in Manchester with broad stripes and gay patterns.**

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